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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,842	05/13/2005	Tatu Pitkanen	BERGPAT-8	8963

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EXAMINER

DAVIS, OCTAVIA L

ART UNIT	PAPER NUMBER
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2855

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/534,842

Applicant(s)

PITKANEN ET AL.

Examiner

Octavia Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25 - 52 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 25 - 52 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/13/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Acknowledgment is made of applicant's preliminary amendment filed 5/13/05.

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors because it contains more than 20 pages. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claim 32 is objected to because of the following informality: On line 1, replace "doses" with "does". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 25 – 29 and 33 - 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Haag et al (4,903,517).

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Regarding claims 25, 29 and 46, Van Haag et al disclose a method and apparatus for regulating the operation of calendars and like machines comprising a measuring device arranged to measure at least one variable related to a force of a first elongated rolling device 2 relative to a second elongated rolling device 3 defining a nip 4 to produce a measurement signal (See Col. 10, lines 1 – 8), a control system 16 in measurement receiving relation to the measuring device, the control system arranged to compare the measurement signal with a selected set value of the variable to generate a control signal and to obtain a difference value (See Col. 10, lines 1 – 8 and Col. 4, lines 23 – 33), a hydraulic device 14, 15 arranged to change the position or force of the rolling device 2, 3 in the roll nip 4 with a fluid pressure or a flow rate of the fluid (See Col. 9, lines 20 – 28) and a switch connected in control signal receiving relation to the control system 16, the switch having at least one first valve V1 – V6, VL, VR connected to the computer 16, each of said valves being switchable stepwise between on and off on the basis of the control signal, so that the fluid pressure in the hydraulic device or the flow rate of the fluid to the hydraulic device can be changed by regulating the volume flow of fluid to the hydraulic device (See Col. 9, lines 29 – 38).

Regarding claims 26 and 27, the difference value is obtained by the computing operation and the step of changing a fluid pressure of a hydraulic device includes the step of adjusting selected valves whose flow volume achieves a decrease of the difference value (See Col. 10, lines 24 – 28).

Regarding claim 28, the step of measuring a variable comprises measuring an amplitude and frequency of vibration in the nip 4 and further comprises generating a control signal p_{soll} (See Col. lines 8 – 12), wherein the step of adjusting the value is an adjustment based on the control signal and wherein the step of changing a fluid pressure of the hydraulic device 14, 15 comprises using the control signal to change the rate of flow of the fluid to the hydraulic device (See Col. 10, lines 12 – 28).

Regarding claim 33, an analog valve is provided to supply the majority of the flow rate of the fluid to control the position of the first elongated rolling device 1 (See Col. 10, lines 8 – 12).

Regarding claim 34, a plurality of pressure regulating valves are provided for pairs of secondary bearing elements 8 that are disposed to first bearing elements 7 forming a row (See Col. 9, lines 11 – 16 and 36 – 41).

Regarding claims 35 and 36, the hydraulic device 14, 15 is a hydraulic cylinder having a piston head having a first side and a second side, and a first cylinder portion located on the first side of the piston head is connected to the valves pack (See Col. 9, lines 21 – 25 and 29 – 36).

Regarding claims 37 and 38, the hydraulic device 14, 15 adjusts the pressure in the nip 4 and the zones of the nip and biases the rolls based on the fluid pressure (See Col. 12, lines 5 – 31) and a web W advances through the nip 4 of the rolls 2, 3 (See Col. 10, lines 58 – 63).

Regarding claims 39 and 40, a supercalendar 201 includes coated rolls 229 – 234 with a web passing through and a nip (not shown) (See Col. 11, lines 11 – 27).

Regarding claim 41 – 43 and 45, the rolls are rolls in a multi-nip calender (See Fig. 4) and the hydraulic device is a hydraulic actuator A provided at the end of one of said rolls (See Col. 9, lines 43 – 48) and the valves control the hydraulic actuators within the rolls (See Col. 9, lines 48 – 60 and Col. 10, lines 8 – 25).

Regarding claim 44, the rolls 2, 3 having loading devices therein 7, 8, and wherein the operation of said loading devices is arranged to be controlled with a valve (See Col. 9, lines 5 – 11).

Regarding claim 47, the step of measuring a variable comprises measuring an amplitude and frequency of vibration in the nip 4 and further comprises generating a control signal p_{soll} (See Col. lines 8 – 12), wherein the step of adjusting the value is an adjustment based on the control signal and wherein the step of changing a fluid pressure of the hydraulic device 14, 15 comprises using the

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control signal to change the rate of flow of the fluid to the hydraulic device (See Col. 10, lines 12 – 28).

Regarding claims 48 – 52, the step of measuring a variable comprises measuring an amplitude and frequency of vibration in the nip 4 and further comprises generating a control signal p_{soll} (See Col. lines 8 – 12), wherein the step of adjusting the value is an adjustment based on the control signal and wherein the step of changing a fluid pressure of the hydraulic device 14, 15 comprises using the control signal to change the rate of flow of the fluid to the hydraulic device (See Col. 10, lines 12 – 28).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 30 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Haag et al (4,903,517) in view of C. E. Adams (2,470,086).

Regarding claim 30, Van Haag et al disclose all of the limitations of these claims except that the valves are of different sizes with the relationship of volume flow of the digital valves being such that the volume flow of a larger valve is double that of the valve with the next smaller volume flow. However, C.E. Adams disclose a hydraulic apparatus comprising a plurality of valves 45 having restricted passages 71 of different sizes the effect the interval of delay of a fluid (See Col. 5, lines 55 – 59).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Van Haag et al according to the teachings of C.E. Adams for the purpose of, providing restricted passages of different sizes to limit the flow of fluid (See Col. 3, lines 43 – 46) and providing a control mechanism for a fluid pressure operated apparatus that causes continuous, repeated operation of a power unit that may stop moving due to an obstruction encountered (See C. E. Adams, Col. 5, lines 70- 75). With respect to the “volume of the larger valve being double that of the valve with the next smaller volume flow”, the optimization of proportions in a prior art device is a design consideration within the skill of the art. In re Reese, 290 F.2d 839, 129 USPQ 402 (CCPA 1961).

Regarding claims 31 and 32, in Van Haag et al, the measuring device 16 includes an A/D converter having a digital output connected to the valves and the output does not pass through the converter (See Col. 10, lines 51 – 56).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lahtinen et al (6,012,386) disclose a bearing control system for a roll with hydrostatic bearings.

Onnela et al (6,662,630) disclose a method for measuring slide bearing pressure in a deflection compensated roll with a fixed shell.

Brendel et al (6,497,177) disclose a calendar arrangement and a deflection controlled roll and method of operating them.

Pav et al (4,729,153) disclose a roll for use in calendars and the like.

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Pav et al (5,029,521) disclose a calendar and method of operating the same.

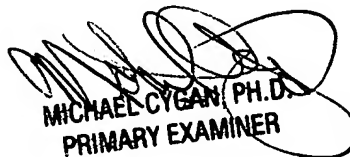
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Octavia Davis whose telephone number is 571-272-2176. The examiner can normally be reached on Mon through Thurs from 9 to 5. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

OD/2855

9/27/06


MICHAEL CYGAN, PH.D.
PRIMARY EXAMINER